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ABSTRACT

An assessment of the long-term effects of Chapter 1 services offered within the Philadelphia (Pennsylvania) School District is provided. The study covers the effects of the remedial reading and mathematics programs on student achievement. More specifically, the study assessed the impact on achievement for students who participated in Chapter 1 programming for 2 consecutive years and for students for whom programming had been withheld for 1 year following program participation. An evaluation sequence of pretest, posttest, and sustained-effects test was selected within a 3-year cycle (1986-1988). The sustained effects data were obtained at least 12 months after the pretest. Achievement and participation data were collected as part of the Chapter 1 Evaluation and Reporting System. Achievement results from three points in time were compared. Results indicate that: (1) students participating in Chapter 1 reading or mathematics services for 2 consecutive years demonstrated a pattern of continuous achievement gains; (2) students participating in Chapter 1 reading services for 1 year demonstrated a pattern of non-sustained gains; and (3) students participating in Chapter 1 mathematics services for 1 year demonstrated a pattern of sustained-but-non-enhanced gains. (TJH)

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SUSTAINED EFFECTS

MEASURING THE IMPACT OF CHAPTER 1 OVER TIME

1986-1988

November 1988
Report #8908

OFFICE OF RESEARCH AND EVALUATION
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1. What does the term Sustained Effects mean?

Congress, school staff and interested members of the public have been concerned about the long-term effects of Chapter 1. While some evaluations have revealed that Chapter 1 may contribute to student achievement during the school year, this improvement may not be sustained when Chapter 1 students are evaluated in subsequent years.

- Sustained Effects examine program effects over time.
- Sustained Effects take a longer view of the impact of Chapter 1 services upon pupil achievement.
- Legislation requires local school districts to look at Chapter 1 achievement over periods which are longer than those spanned by annual evaluations.
- Sustained Effects may include those who receive more than one year of service as well as those who are no longer served.

2. What are the purposes of a Sustained Effects study?

- To determine if achievement linked to Chapter 1 participation is continued beyond the end of the annual project cycle.
- To examine project effects over time.
- To use results for planning and improving projects.
- To discover or substantiate programmatic strengths, needs and/or areas to be strengthened.

3. How was the present study conducted?

- Questions of interest which require a measure of pupil achievement over time were developed.
- An evaluation sequence of pretest, posttest and sustained-effects test was selected within a three-year cycle (1986-1988).
- The sustained effects data were obtained at least 12 months after the pretest.
- Achievement and participation data were collected as part of the Chapter 1 Evaluation and Reporting System.
- Achievement results from three points in time were compared.
- Interpretation and implication of the results were derived.
- Findings were documented.

4. What questions were addressed by this study?

Reading Achievement

What was the impact on reading achievement for those participating in Chapter 1 reading services for two consecutive years?

Was the effect of providing Chapter 1 reading services for one year sustained after the service was withdrawn?

Mathematics Achievement

What was the impact on mathematics achievement of those participating in Chapter 1 mathematics service for two consecutive years?

Was the effect of providing Chapter 1 mathematics service for one year sustained after the service was withdrawn?

5. What are the possible sustained effects patterns, and how are they interpreted?

SHORT TERM ACHIEVEMENT HAS THREE BROAD PATTERNS

- Continuous Achievement Gains are characterized by a steady increase at each of the testing times.
- Sustained-but-not-enhanced gain is one in which students' scores increase from pretest to posttest and then stay at about the same level at the third testing point.
- Non-sustained Gain is one where scores increase from pretest to posttest, but then decline over the following year.

LONG-TERM ACHIEVEMENT SHOWS TWO PATTERNS

- Long-Term Achievement Loss is one that occurs when the sustained effect score (the third test) is lower than the pretest score.
- Long-Term Achievement Gain is one that occurs when the sustained effect score is higher than the pretest score.

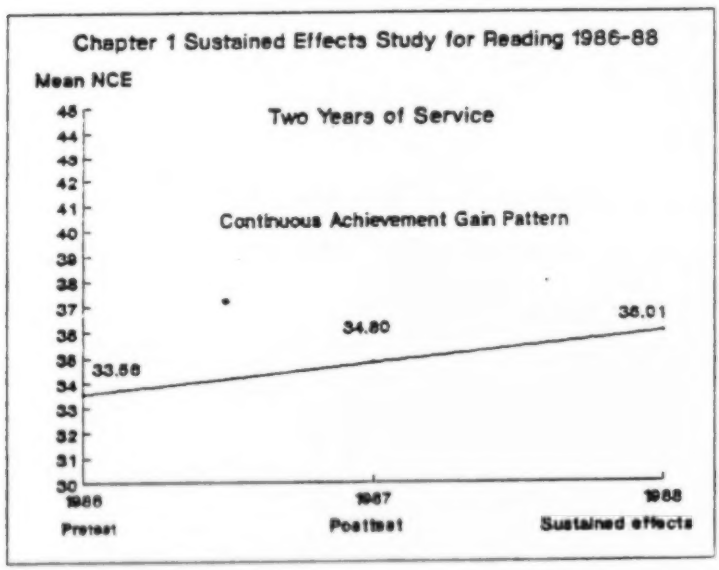
6. What was the impact on Reading achievement of those participating in Chapter 1 reading services for two consecutive years?

EXPECTED OUTCOMES

- Positive Chapter 1 impact should be reflected in increases in pupil achievement each year.

- The test scores, expressed in Normal Curve Equivalents (NCE's), should increase from pretest to posttest and also on the subsequent spring testing cycle (the sustained effects test).

FINDINGS



MEANING OF RESULTS

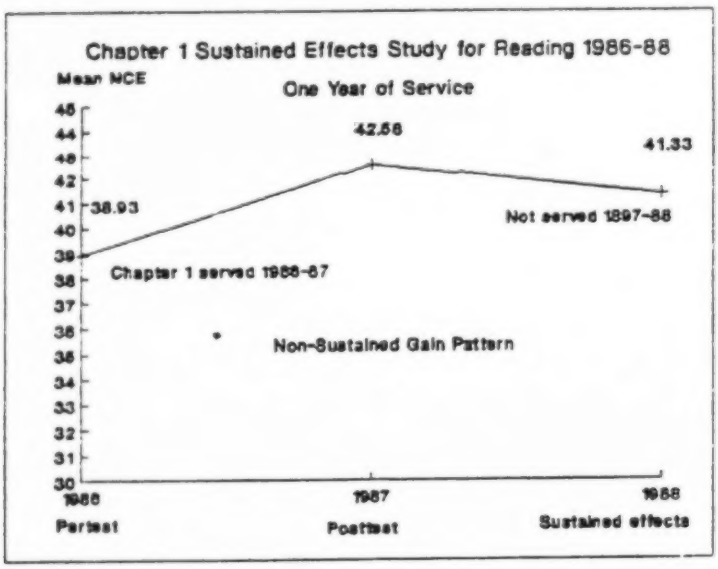
- NCEs increased from pretest to posttest to the sustained test. That is, the initial gain of Chapter 1 served students was sustained during the second year of service.

7. Was the effect of providing Chapter 1 Reading Service for one year sustained after the service was withdrawn?

EXPECTED OUTCOMES

- Positive Chapter 1 impact should be reflected in increases in pupil achievement during the service period.
- Children no longer served should be able to sustain their reading progress in the regular classroom environment.

FINDINGS



MEANING OF RESULTS

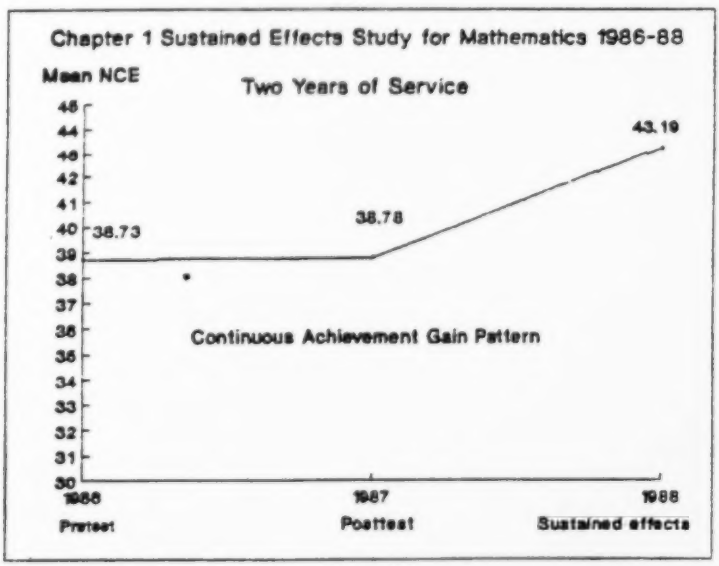
- NCEs increased during the Chapter 1 service period.
- On the average, an NCE loss was experienced during the second period, when Chapter 1 service was not provided.

8. What was the impact on mathematics achievement of those participating in Chapter 1 mathematics services for two consecutive years?

EXPECTED OUTCOMES

- Positive Chapter 1 impact should be reflected in an increase in pupil achievement each year.
- The test scores, expressed in Normal Curve Equivalents (NCE's), should increase from pretest to posttest and also on the subsequent spring testing cycle (the sustained effects test).

FINDINGS



MEANING OF RESULTS

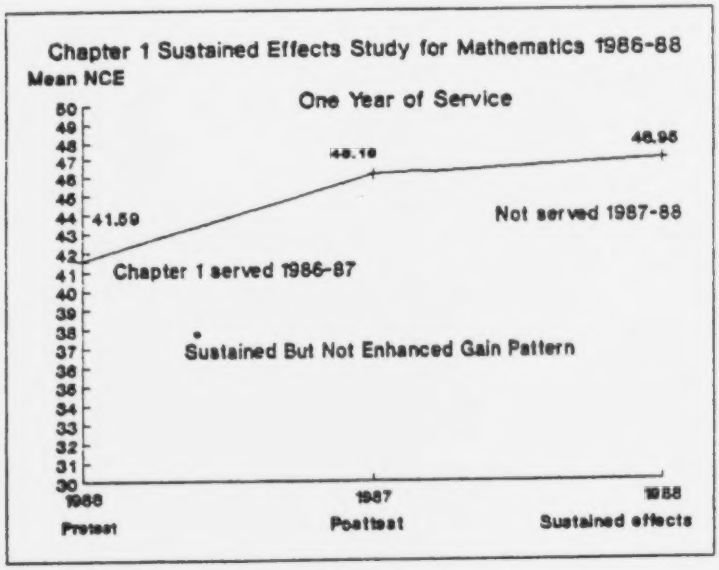
- NCEs increased from pretest to posttest to the sustained test. That is, the Chapter 1 served pupils continued to gain during the second year of service.

9. Was the effect of providing Chapter 1 mathematics service for one year sustained after the service was withdrawn?

EXPECTED OUTCOMES

- Positive Chapter 1 impact should be reflected in increases in pupil achievement during the service period.
- Children no longer served should be able to sustain their mathematics progress in the regular classroom environment.

FINDINGS



MEANING OF RESULTS

- NCEs increased during the Chapter 1 service period.
- On the average, an NCEs gain was sustained during the second period, when Chapter 1 service was not provided.

10. What were the key findings from the study?

- Students participating in Chapter 1 reading service, or in Chapter 1 mathematics service, for two consecutive years (1986-1988) demonstrated a pattern of Continuous Achievement Gains. The initial gain of the first year was sustained during the second year of service.

- Students participating in Chapter 1 reading services for one year (1986-1987) demonstrated a pattern of Non-Sustained Gain. During the second year, when no Chapter 1 service was provided, a decline in the average NCE occurred.

- Students participating in Chapter 1 Mathematics services for one year (1986-1987) demonstrated a pattern of Sustained-but-Not-Enhanced Gain. During the second year, when no Chapter 1 service was provided, a slight increase in the average NCE occurred.

11. What are the implication for future studies?

- The findings of the current study must be considered tentative until replicated in a future cycle.

- Future investigations should examine differential effects of grade level, type of service, decreases/increases in services, initial pretest score, and early exit.

- An examination of the policies regarding providing or withdrawing Chapter 1 services and the degree to which policy facilitates appropriate decisions is warranted.